

THE
SOUTHERN AGRICULTURIST.

APRIL, 1829.

PART I.

ORIGINAL CORRESPONDENCE.

ART. I.—*On the Advantages of Planting the Bearded Rice ; by Mr. W. WASHINGTON.*

Mr. Editor,—Observing in your Number for February, an account of the Bearded Rice, I would beg leave to call the attention of Planters to it. I am fully aware how strong the prejudice in favour of the olden way operates among Planters, as well as other people, nor would I discourage caution in proceeding from one kind of culture to another. I, at the same time, think that a fair experiment on a small scale at first, should be made by every friend to improvement. From Mr. Mayrant's account, it appears that this variety of Rice is by far more productive than the Gold-seed ; it is, also, he asserts, more palatable ; it weighs more, in the proportion of fourteen to ten—it is whiter—it can be beaten out in half the time. This, Mr. Editor, is a valuable consideration to the small planter, who is either too distant to send his crop to town to be pounded, or too poor to pay the enormous per centage exacted at the toll-mills. To the inland planter, it offers great advantages, in-as-much, as it appears it will stand the drought much better than the Gold-seed. Another important consideration is, that it can be threshed out with a simple and cheap machine at the rate of from one hundred to one hundred and fifty

bushels per day, equal to ten or fifteen labourers per day. Again, it will grow well on high land, and I am persuaded it will, at no distant day, supersede the culture of Indian Corn, in this, our lower country. These observations dictated by no other motive than a sincere wish for the public weal, are offered under the hope that they may induce the planters to pay some attention to this, as I think, important subject.

— Your friend,

W. W.—.

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Note, by the EDITOR.

We are extremely obliged to our esteemed correspondent "W. W." for his notice of the valuable communication sent us by Mr. Mayrant, on the *Bearded Rice*, (see our February number, p. 74) as well as for his other useful exertions for the improvement in cultivating the old staple of Carolina.

It was our intention to have devoted a part of an early number to some observations and reflections on this important crop generally; but the times are propitious to the Rice planters, they want but few observations, still less do they want new crops to relieve them from the pressure of the times, and our anxiety to give the information we had been so greatly favoured with on Sugar, Indigo, and other subjects now in season, is such, that we have postponed our remarks on Rice for a short time.

We think it of the utmost importance to the Rice planters however, that inquiry should be made in other countries into the relative value of the several sorts of Rice we either plant as crops, or for experiment's sake—we do not mean mere price, but the estimation for eating they are held in, in the countries where Rice is consumed.

We are, unquestionably, in Carolina, the most indifferent and easy set of men about every thing that regards our crops, and the mode of disposing them, that exist any where. But a few years back, the price of all qualities of Rice was the same, or at most only a quarter, or half a dollar per hundred weight difference between the best and even inferior qualities. When the Committee on Foreign

Rice Mills was appointed by the Agricultural Society of South-Carolina, it was scarcely possible to ascertain amongst all the Rice Planters, what the true quantity of offals produced from any given quantity, or any quality of Rough Rice then raised in Carolina actually was; and in general we leave *to accident* all alterations and improvements in planting, machinery, &c. &c.

We think *it is possible*, and we can call the attention of Rice planters to the circumstance, that the Gold-seed Rice *may not be the most saleable abroad!* We will state our reasons.

In the letters addressed to the Agricultural Society of South-Carolina, from Holland, on beating Rice in that country, and requesting the Society to send on samples of the best kind, for trial, with the machinery they have been hitherto using, they expressly state that the Rice should be "sound, heavy, and of *white* quality, and in case that quality cannot be obtained for the present it would be better to defer the shipment sometime." Another letter, from Liverpool, speaks of the process for preparing East India Rough Rice, in the Rice-mills there, as being effected by steam, and as making the grain extremely white. In the London Rice-mill there is a secret process "*to counteract the effect of the sea-voyage on the Rough Rice,*" and perhaps to give the clean Rice the necessary *whiteness* so highly prized on the continent of Europe.

In a letter addressed by that lamented patriot, General Thomas Pinckney, but a few weeks before his death, on the subject of the Rice sent by the Agricultural Society, addressed to the Chairman of the Committee, he states, "that a kind of Rice he had been in the habit of planting a small part of yearly, was very much thought of in Holland, and had brought ten or twelve guineas per tierce there, thirty years ago.*

Finally our readers will find in our selections from Chateauvieux, if we can rely upon the very vague account he gives of its culture in Italy, that *Bearded Rice* is planted there.

We shall take up the subject of Rice, as soon as we can get ready the papers belonging to the Committee on Foreign

* We think this subject so important, that we annex General Pinckney's letter here, instead of waiting to publish it with the proceedings of the Committee.

Rice-mills, which will be in a few numbers. In the mean time we beg our readers to notice particularly, that seed of the Bearded Rice is advertised in our outer sheet.

✎ On the subject of Agricultural Advertisements, we suggest to the Sugar planters, who expect to have seed Canes for sale next crop, to adopt the method practised by the Rice planters. That is, to get their factors to advertise seed Cane for sale, to be delivered according to orders left with the factors. If the advertisements appear early in the season, say in our August, September, and the following numbers, mentioning the part of the country where the Cane is grown, many will be accommodated in their own vicinity at a less expense for carriage, and with less trouble to the seller.

J. G.

Letter from Gen. T. Pinckney to Jas. Gregorie, Chairman, &c.

“ Friday Morning, 19th September.

Dear Sir,—I return the two volumes of the Repertory, together with the very interesting letter of Mr. Wambersie. I am much gratified with the liberality with which the Society has determined to forward samples of Rice to the manufacturers in Holland, to which I shall be glad to join my additional mite. I have for many years past, occasionally cultivated a large species of Rice, the product of which has always appeared to me at least equal to that of the Gold-seed Rice; but it has always had a capital defect in our market; which is, that it would not sell, because our merchants are ignorant what reception it might meet with abroad; I however shipped, more than thirty years ago, ten or twelve tierces of it to the house of Messrs. Willink, Vanstaphorst and company, of Amsterdam, for each of which I received ten guineas; and these gentlemen assured my brother, who went soon after to Amsterdam, that such Rice would always command a good price in their market. Of this Rice I have cultivated a small parcel this year, of which I will direct twenty bushels to be threshed and sent down immediately after harvest, if the Committee will take the trouble of adding it to the samples they are about to send.

Would it not be advisable for the Committee to engage Mr. Wambersie, to send them some seed of the Java Rice,

to try whether it has any superiority over that which we now cultivate? it might very well be received in season to sow for trial the next crop.

Very respectfully, dear sir, your obedient servant,

THOMAS PINCKNEY.

To JAMES GREGORIE, Esq.

ART. II.—*Observations on the Cultivation and Preparation of Fine Cotton; by the EDITOR.*

The introduction of the Cotton plant into these States raised the Southern planters, and especially those of South-Carolina, from the state of prostration in which they lay, but a very few years preceding the end of the last century. Its cultivation now gives more employment, and is of more value to us, than any other production of the soil: and it is not likely that so great a mercantile demand for any other we can raise, will ever exist, for no article so cheaply transportable, is in such universal use over the whole globe, affording elegant and costly apparel for the greatest monarchs, while it gives the cheapest covering, and abundant employment to their poorest as well as their wealthiest subjects.

As it will therefore ever be a standing crop amongst us, one on which many of our inhabitants will lean for at least a part of their support, it is deserving of the most serious attention of every man who has a spark of Southern spirit in his bosom. No time is too precious—no pains too great to be bestowed upon the improvement of its cultivation, or preparation for market; in giving facility and economy to its exportation, and in increasing its consumption at home as well as abroad.

It is needless to say that we hail every essay on this important subject with pleasure, and that we saw with especial interest, Mr. William Elliott's first letter of November, 1827, published in our last volume, page 151. The very extensive range that gentleman took in his able communication, convinced us that he would reflect still further on many of the points he touched on, and that the public at

a future day would have the benefit of his observations. We were not mistaken—for in our last number, a second letter on the cultivation of fine Cotton was laid before our readers, in which, with a manly sincerity, very different from many others, he not only avows his opinions, and gives us such information as he possesses, but inforces the whole by the best assurance he can offer, that he intends to plant his entire crop upon the principle he has disclosed. We would recommend these letters to the attention of all our Agriculturists, not only for the information and sound reflections they contain, but for the true spirit of the Southern gentleman with which they are written.

That all the essential qualities of Cotton can be increased to perfection by the judicious selection of seed *annually*, by planters themselves, on their own plantations, and *not by changing their own Cotton seed for that of others*, we firmly believe; but we think the selection would be better made by inspection of the plants themselves, while yet growing, than by hand-picking the seed before or after ginning. This principle of planters annually selecting their seed from their own fields, as far as the sea shore cultivation on prime lands, or on lands manured with salt mud is concerned, we think is settled. Innumerable and familiar instances of this mode of improving the good qualities of nature herself, might be produced from the long list of garden vegetables and flowers, and from a variety of even such plants as are extensively cultivated in field crops.

But, for ourselves, we want no confirmation, for *we are well convinced*, it is in reality the manner in which the celebrated Cotton raised in the neighbourhood of Charleston, has been improved. It is nearly twenty years, to our own knowledge, since the worthy individual so often alluded to, whom we highly esteem, has been, with unremitting attention and perseverance annually improving his crop, until he has brought it to the state of perfection so creditable to his efforts. We are well satisfied it was in his own fields that the seed was originally found, and on plants marked out by his own hand while yet growing. We are certain, that from his own watchful patience all his improvements arose, and we deeply regret that a discovery so advantageous to the Southern States should not bring to the finder *a continuation* of its reward.

Whether this system has carried with it a sufficient compensation, it is impossible to say. Such devotion to any mode of culture ought to be, and is generally successful. But the impression on our minds, and on the minds of many who have watched with fixed attention the progress of this experiment is, that the common culture of fine Sea-Island Cotton, as practised by many others, yields more profit in the end—that even the high price does not make up for the diminished weight and extra labour. For notwithstanding we pay the greatest deference to Mr. Elliott's opinion we believe, that the general idea, and the assertions of the "*Enemy of Secrets*" are correct—that the productiveness of the *superfine* Cottons, by which we understand the weight of clean Cotton procured to the acre, is actually less in proportion to the fineness of the staple. And this we think will be found to be the case, for we have understood that the number of bags produced to the hand by the first discoverer is below the usual crops. Many will be misled by the length of the *last season*, and the consequent weight of Cotton gathered in, but a year or two will bring experience and certainty along with it, for many now know the whole secret, and have even produced as fine Cotton.

We think Mr. Elliott's conjectures on the consequences of an increased quantity of the *superfine* Cottons, are perfectly correct, and are well worth the serious attention of those about to embark in their cultivation. As far as the information we have obtained, and our own knowledge of the Cotton trade will enable us to judge, a few hundred bales produced for a crop or two, will overstock both the English and French markets for years, bring down the price of this peculiar quality below a saving one, and drive "the Agricultural industry of those who plant it into new channels."

But may we not even if this should be the case, out of this discovery, reap permanent advantages to Carolina, and all the Southern States? May we not give a character to all our long staple Cottons, which will place them above all competition from other countries? Is it not possible for all these Cottons to be, not only so well handled as to require no further preparation on the part of the manufacturer to fit them for the cards, but to give to the staple such a length and fineness, such strength and *freeness*, as will enable the spinners to furnish themselves with Cottons, suitable to

every kind of work ? It appears to us that this may be done, and essential benefit arise from each planter's selecting his seed for a small part of his crop upon the principle lately discovered. A quantity sufficient for five or six acres, or more, according to the force, may be hand-picked, and from the seed produced by this extra fine quality, let the general crop be planted the following year. Every planter will thus have a portion of the finest Cotton, with which the market will not be overstocked. The general crop will be greatly improved in all the qualities, wanted for the manufacturer, for we would observe that the spinners assert of the superfine Cottons, that while they exclusively are fit for the very highest numbers of yarn that can be spun, they may be used if necessary for the coarser kinds also. If the great strength and *adhesiveness* of this kind of Cotton can be given to a somewhat coarser quality, having consequently more weight,* all the advantages which can be wished for will be gained by the planter, and we shall insure the best prices the trade can afford.

We have been told recently by a planter of veracity, living on the main, full twenty-five miles from the ocean in a straight line, that he selected last summer a few pods from remarkable plants in his Cotton field, and shewed them to a purchaser (whose judgment we undertake to be responsible for) in order to ascertain their quality and value. He was informed that if his crop was similar to the pods produced it was worth sixty cents per pound ! treble the price nearly that he had sold his crop for.

We hope every Cotton planter will inquire into these facts for themselves, that they will examine their own crops for superior Cotton plants without regard to distance from the sea side, for in this way varieties possessing various qualities, as superior fineness, great weight of Cotton to each pod, and great productiveness of course, may be discovered—we go farther, we hope that similar attention will


* The true way, it appears to us, to ascertain the relative produce per acre of the finest Cottons *compared with all others*, will be to weigh the Cotton contained in a specific number of pods ; to weigh the same number of pods of other grades of fineness and from thence—from counting the number of pods produced on plants of each kind, and reckoning the quantity of plants per acre, to calculate the probable weight of clean Cotton of the various qualities. None but a very experienced purchaser, could decide the value of each quality : but such can be found, and besides samples might be sent to England. We think the question an important one.

be paid to other crops, and especially to the Sugar Cane, in the *culture* of which last, and in the *plant* itself, no doubt great improvements will be annually made by our enterprising Agriculturists.

We shall continue our observations on this highly interesting subject in some future number, accompanied by the excellent paper of "*An Enemy of Secrets*," on the *third secret*. For the present, we terminate our remarks with a description of a simple plan of planting fine Cotton seed, by which the smallest possible quantity may be drilled in with certain success.

To the axletree of a common wheel-barrow, or *frame*,* if the wheel is not already of the kind wanted, attach a wheel made of tupelo or other wood, four inches thick. In the rim of the wheel bore holes with an inch and quarter auger, at the distance of three or four inches apart, into which drive pegs, so as to project about three inches or more, according to the state of the soil.

The wheel of the barrow is to be rolled on the top of the Cotton beds, by two boys, each holding a handle of the barrow, and one, two, or three seeds dropped into the holes made by the pegs by careful hands, who must follow immediately. If the soil is stiff *do not cover with it*, but let another hand shake *light soil* from a cow pen or elsewhere out of a basket, to cover the seed. In this way, with considerably less than one bushel of picked seed; the writer planted four acres last spring, and he assures our readers that this mode of planting is more expeditious than would be at first imagined, as the boys can walk with the wheel-barrow faster than hands can drop the seed.

 We would notify our readers that a very ingenious *native* mechanic, Mr. J. N. Philips, of Christ Church Parish, offers to make a Cotton-planter on this principle, which will drop the seeds into the holes as fast as they are made, and in any given number from one to ten. It will cover the seed as it plants. We hope he will receive encouragement.

J. G.

* It is easier to make a frame, than to fit the old wheel-barrow, as the front cross-bar requires to be taken away on account of the increased size of the wheel.

ART. III.—*On the Cultivation and Preparation of Indigo;*
by General FLOYD, of Georgia.

(Concluded from page 108.)

Arrangement of Work.

It is customary for every gang or set of hands to work, from the beginning, the land belonging to the respective set of vats for which they are designated, and to perform all the requisite duties in their several departments, without interfering with each other's gangs.

A set of Indigo vats consists of a *Steeper*, twelve feet square by thirty inches deep in the clear. A *Beater*, sixteen feet long, eight and a half feet wide, and five feet deep. A *Lime-vat*, which, if intended for *two sets*, must measure ten feet in length, eight feet wide, and five feet deep. The appendages are one pump, one drain-house and sand-boxes or pens, two press boxes, three pails, one plate, one dipper, a bottle of train oil, and an arbour covered with bushes, as near as practicable to the steeper, of sufficient size to protect from the sun, as much weed as the vat will hold. All these must be in order, and a sufficient cistern of water got, *the day before* the cutting of the weed commences.

The lime-vat having been previously supplied with the quantum of lime sufficient to make a strong lime-water, on the morning of the day intended to commence the manufactory of the dye, the gang designated to each set of vats will draw the water from the steeper, wash and clean the vat of all filth, adjust the troughs, and see that the pump, plugs to the vents, and every other appendage are in good order. Great cleanliness is essential to making good Indigo.

After the commencement of operations, while the steeping vat is filling, the hands not engaged at the pumps are employed in removing the dead weed delivered from the vat in the morning, to wherever it may be convenient to deposit it in a manure heap, for distribution at some future time on the fields.

During the time the two hands are employed in beating, which seldom occupies more than two hours, the other hands belonging to the set, free the steeping vat from the

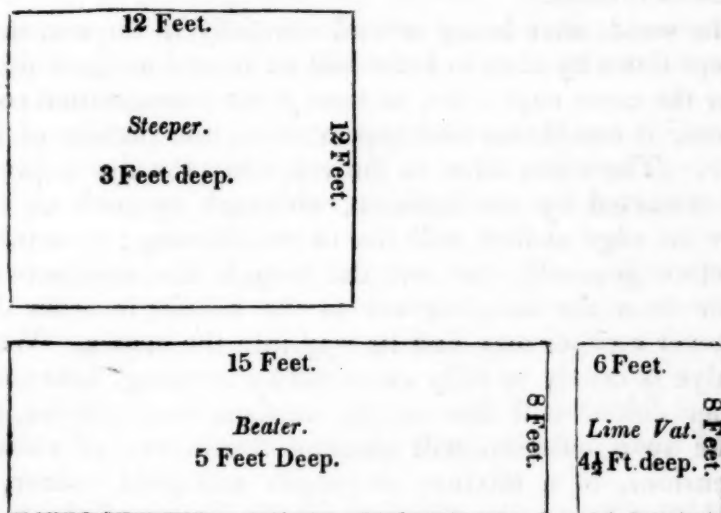
dead weed and clean it out, depositing the dead weed where it will be convenient to be carried away afterwards to the manure heap.

After delivering over the mud or paste (as the Indigo is called in its first state of preparation,) of the preceding day at the barn, the hands proceed to the field, from which the weed was cut the day before, which is hoed, giving a little earth to the stubble for the purpose of promoting the second growth, as *that*, it is calculated, will yield half as much as the first cutting; and if the seasons are favourable, expectations from even a *third* cutting are seldom disappointed.

The hands who manage at the barn have nothing to do with the process at the vats, the mud is always brought to them. They carry on the pressing, working, cutting it into squares, drying, sorting, sweating, brushing, and putting off for market. *Two* hands thus employed will be competent to the management of the product of *five* sets of vats.

The hands that attend to the vats have nothing more to do with the Indigo when once the mud is handed over to those at the barn.

Plan of a sett of Indigo Vats.



Let it be remembered, that the Steeper and the Lime Vat, both stand five feet *higher* than the Beater, so as to

admit the Indigo-water and the Lime-water to be drawn by troughs and plugs from each of them into the Beater, as they are required. The depth of the Beater, which is five feet, is intended for the play of the buckets, and to prevent the flying over, and consequent loss of a part of the liquor in beating into dye.

Steeping the Weed.

About twelve o'clock commence, with two reapers, to cut down the weed, while the other three hands take it to the arbour intended to screen it from the sun, where it must be deposited in bundles as it is carried *without untying it*, unless kept too long, *in which case it would be injured by overheating.*

As soon as a sufficient quantity is in hand to fill the vat, *which those accustomed to it will very soon learn*, the reapers come in and assist in stowing and *choking off* the vat with the weed. Immediately after, they mount the pump scaffold, and without delay, by pumping, cover the weed with water in the steeping vat, and secure it down when the labour of the gang is at an end for the first day—*unless the vats prove leaky*, in which case they are required to attend with pails to save the liquor, which is returned to the vat as fast as it leaks.

The weed, after being stowed carefully in the vat, must be kept down by slats or laths laid on it, and wedged down under the cross caps: for, as soon as the fermentation commences, it would rise and appear above the surface of the water. The water also in the vat, when the dye is pretty well extracted by the infusion, although an inch or two below its edge at first, will rise to overflowing; a notch is therefore generally cut over the trough that conducts the liquor from the steeping vat to the beater, in order that whatever escapes may find its way into the beater. When the dye is nearly or fully extracted by steeping, flakes of a copper colour will rise on the surface, and bubbles not unlike soap bubbles, will present themselves of various dimensions, of a mixture of copper and gold colour, at which time by an examination of the leaves of the weed they will be found to have assumed a livid and putrid appearance, and by a slight touch of the finger-nail, the outer coat of the skin of the leaf may be easily separated

from the more spongy part that it covers.* These signs show that the weed has yielded all its valuable qualities, and that drawing off the liquor ought not to be delayed, otherwise the quantity of the dye, as well as the quality will be affected. If the weed has been properly steeped, the liquor when drawn off will exhibit a beautiful mixture of colours, such as *crome*, or flake and queen's yellow, tinged with blue, or purple and green, and assumes a darker green appearance when embodied in the vat which receives it. While the liquor is running off, oil is used to allay the froth. The feather of a quill is dipped in the oil, and the contents delivered a few times into the trough that conveys the liquor from one vat to the other.

The Process of Beating.

Beating is best performed by means of an axle-tree, placed lengthway over the beater, through which five arms pass at right angles, and to each end of which is firmly fixed a bucket, fourteen inches long at top, and ten at bottom; sides ten inches in length; opening at top eight inches and a half; opening at bottom one inch and a half. By means of hand-spikes placed in the axle-tree, two fellows perform the beating, by suddenly and alternately plunging each set of buckets into the liquor. While one set of buckets are thus filling below, the liquor drains through the bottoms of those above; these are then made to descend and fill in their turn.

As soon as the liquor is entirely drawn off and is received into the beater, it is customary to let in a little lime-water, and the beating commences. By the continued action of the axle-tree, the liquor is well churned or *beat*, and soon changes its colour, approaching to dark blue. The violent agitation of the liquor occasioned by beating, produces much froth, which is again dispersed by a little oil from the feather as already described.

After beating about an hour, *more or less*, and this depends upon the richness of the liquor, *the softness of the*

* Those accustomed to planting Sugar, may observe that the ends of the Indigo stalks, where they have been cut, if taken from near the bottom of the vat, will be found to have assumed the colour of Sugar Cane at that time, when acidity has produced a state of fermentation, which makes it necessary to cut away such parts from the Cane, before it goes to the mill.

water, and the temperature of the weather, take from below the surface with the dipper* some of the liquor, put it into a clean plate,† and if it is of a thick muddy appearance, partaking *more of blue* than *green*, it is time for the first lime-water, by which the beating is not interrupted. *Particular attention* is now required, and *frequent examinations* with the dipper and plate, in order to ascertain whether it has received lime enough. This may be known by the distant formation of the grain, which then partakes *more of deep blue*, and by a few minutes standing, inclines to separate from the water, and gradually to settle at the bottom. When the grain is sufficiently and distinctly raised, stop the lime-water, but without stopping the beating. The lime-water changes the colour to a *still deeper blue*, and when beat nearly as long as before the first liming, the grain will be found to be much thicker and finer, and the liquor of a *deep blue*; this shews that it is beat enough. Again let in lime-water, and instead of beating sink each set of buckets slowly to the bottom of the vat, sinking and raising them up alternately, and continue this stirring gently, while it is receiving the lime-water, until you find by the dipper and plate, that a thick, fine grain is produced, which inclines to separate from the watery parts, and readily precipitates itself to the bottom of the plate, exhibiting a handsome deep blue, when the water in the plate is poured off.

These appearances indicate that the dye is pretty well separated from the water, which now wears a rich deep blue colour. Stop the lime-water, and after stirring it a few minutes leave it to settle, and do not allow the buckets again to agitate the liquor by touching it; this will be prevented by placing and keeping them in a horizontal position.

It is here necessary to state particularly, that if the weed is *not sufficiently steeped* the product will be less, and the dye will be more of the blue than copper. If sufficiently steeped, but *not beat enough*, pretty much the same result will be produced. If *steeped too much*, or *beat too much*, the dye will have a dull appearance. If *too much lime* is used, the quality of the dye will be injured by a greyish mixture in its general appearance, after the cake is dry. If

* Nothing is better for this purpose than a Calabash, with a long stick handle.

† A Pewter Plate, kept bright, is generally used to try the liquor on.

too little lime-water is used, a part of the dye will be lost, not having been disengaged from the water, and will be carried off with it in drawing it off, and separating the water from the mud or dye.

If the weather be warm, and the water of a proper kind, *that is soft and warm*, the vats ought not to be filled too early with water, lest the weed be oversteeped before morning. The steeping and beating require strict attention from whoever undertakes that essential part of the business.

Draining.

The vat that has been beat is ready in the course of the afternoon to have the water drawn off, which is then of the colour of *red pea liquor*.

The mud having settled to the bottom is taken up in pails and deposited in the drain frames or boxes, where it remains until the following morning. It is then taken out and delivered to the hands at the barn or Indigo house, whose duty it is to carry it through every other process.

Draining houses are made in a temporary manner. A roof covered with any material that will turn off rain, with the eaves about four feet from the ground; sides and ends open; under which pens made of poles are constructed about two feet high, eight feet long and six feet wide. These pens or boxes are filled with sand, through which water will easily pass, and on each is placed a frame or rim made of boards about six inches deep, over which the cloth is spread that receives the mud from the vat in its crude state. The cloth must be of Russia-duck, sufficiently large to cover the frame on which the mud is deposited. There it remains until next morning, by which time the water will be drained off, leaving a stiff mud. This is again taken up in pails and delivered at the barn as already stated, and the cloths washed and made ready for a repetition of the same operations: but to prevent any delay, it is necessary to have changes of these cloths.

Pressing.

The press boxes are from twenty-six to thirty inches long, fourteen inches wide, by four inches deep, to which a follower of two-inch plank is fitted. The press cloths are

made also of Russia-duck, and when to be used are spread on the press boxes. The mud, as soon as received from the field gang, is deposited on the cloth, which is folded over, the follower put on, and by levers or weights, the water is forced out gradually through holes in the bottom of the box. The mud generally remains under the press until next morning, when it is taken out, put in a smooth mortar and beat with a pestle until it becomes so stiff that it requires some exertion to force it with a smooth small paddle into a mould for the purpose of cutting into squares or cakes for drying.

This beating, although it occasions some labour, loss of time, and even waste of the Indigo itself, is overbalanced by the improvement it gives, not only to the appearance of the squares, occasioning them to retain their full shape, without cracking and shrinking; but also to the *quality* of the Indigo itself, which is much improved by the firmness which this working gives. The ordinary method of taking it from the press box to the drying shelves is objectionable, because the squares shrink, leaving the sides more or less concave, acquiring a much thicker white mould, from which it is difficult to free them, and moreover the Indigo is apt to break in pieces, than which nothing can more injure its appearance or interfere with the sale, however good the other qualities may be.

Moulding and Cutting.

The size of the squares or cakes into which the Indigo is cut for drying is about two inches deep, by one and three quarter inches length and width. The mould is made two inches deep for the purpose of giving this depth to the squares, and the length and width of the squares are distinctly marked on the sides and ends of the frame. From these marks the lines are laid off on the face of the block of mud. By means of a board that will fill the inner dimensions of the mould, its contents are held down while the whole frame being reversed, the mould is lifted off, leaving the Indigo like a new-made brick of tough clay. A thin-bladed knife is generally used to cut through and separate the squares, but small brass wire has been found, by some, better than a knife. It is then carried to the drying house.

Drying.

The drying house is generally a very temporary building, sufficiently tight in the roof to turn the rain. The sides ought to be open enough to admit the air, the better to effect which, they have generally falling shop-windows, which when let down, afford an opening nearly all round. Two ranges of shelves, about five feet wide, with a passage all round, so that the middle of them may be reached by the length of the arm from either side, for the purpose of handling and turning the Indigo on them, and about twenty inches above each other, is all that is required for a drying house.

The Indigo being taken to the shelves of the drying house, the cakes are laid in rows *on rushes*, say two rushes under each row, by which means the air is permitted to pass, between its lower surface, and the boards of the shelves. It is turned every day or two until it becomes dry, which requires about a week *if the air is not damp*. After this it is removed from the drying house, and spread upon a floor, taking care to keep *every vat of Indigo separate, in order to class the qualities by examining a piece from each vat*. This saves the trouble of examining or inspecting every single cake, and is of the greatest importance to the merchant.

After the Indigo has thus remained a week or two until it is supposed to be quite dry, it is put into barrels, with the upper head open, and covered with wet moss, which occasions the sweating, as it is termed. After another week, sometimes more, sometimes less, it is taken out of the barrels, the mould taken off with a brush, and a little finely pulverised Indigo sifted over it. Finally, it is carefully packed away for market.

Memorandum.

The Steeper 12 feet square by 3 feet deep.

Beater 15 feet long, 8 or 6 feet wide, 5 feet deep.

End Caps and Sills 11 inches wide by 6 thick.

Middle do. 8 inches wide, same thickness.

Those for the Steeper 17 feet long.

“ “ “ Beater 14 “ “

Uprights should be of white or red oak, 6 inches wide by two inches thick—length of those for Steeper 7 feet long—for Beater 9 feet long.

Axletree for Beater, length of the Vat, 8 inches wide and $4\frac{1}{2}$ inches thick. Arms that pass through it 5 inches wide, 2 inches thick—diminished a little in width toward the Buckets. Buckets 14 inches long at top and 10 at bottom; sides 10 inches—opening at top $8\frac{1}{2}$ inches—at bottom $1\frac{1}{2}$ inches. Wedges 14 inches long, 3 inches wide at the large, and $1\frac{1}{2}$ inches at small end. Square Plug-holes, not more than 3 inches square, all others bored with $1\frac{1}{2}$ inch auger.

Lime Vat for a single set 8 feet by 6 feet, and not less than 4 feet 6 inches deep—made on the same principle with the others.

A Steeper of the dimensions given contains 432 square feet. A Beater of the dimensions given contains $637\frac{1}{2}$ square feet.

The Weed put into the Steeper, occupies nearly one-fourth of what it would contain of water alone—this is, however, counterbalanced by the lime-water, used in the process of beating; the difference of contents between the Steeper and Beater, besides, is to prevent the waste of liquor by flying over in the act of beating, and, moreover, to increase the power of the lever, which impels the Buckets, which ought to be at least 18 inches above the liquid contained in the Beating Vat.

The Trough for conducting liquor from Steeper to the Beater 10 inches wide, 8 inches deep, diminishing a little towards the Beater.

N. B. Among other considerations, nothing is of more importance than the choice of water, particularly as regards the quality; the quantity of which should also be *certain*. That which is soft and warm, and will lather well with soap, is preferred. The quality and quantity of the product of the dye very much depends upon the water.

Situations on the verge of grounds rising from ravines, or near springs, promise not only greater certainty of ample supplies of water, but admit the escape of the quantity of useless liquor daily discharged from the beater after the dye is precipitated.

Note, by the EDITOR.

We now request our readers to turn back to Mr. William Elliott's reflections on the state of our Agriculture, and peruse those on Planting Indigo, vol. 1, p. 64.

It is there well observed, that "this is a cheap culture and does not require the investment of a large capital." We would say, that any man with six hands may plant Indigo to great advantage, if he will give his own personal exertions in addition. We do not in fact know a crop so well suited to the planter with a small force, and especially near towns, country taverns, or grog shops, we mean those where so much of the produce stolen out of the fields, barns, and corn-houses is openly purchased in defiance of the laws of the State. Indigo, like Sugar Cane, cannot be plundered out of the field, and it is that and its consequences which ruin the small planters near Charleston.

The gentleman from whom Mr. Elliott derived his information, confessed that it was not their aim in Orangeburg district to *produce Indigo of the finer qualities*. Mr. E. asks "May not this be done with advantage?"

We hope that those who henceforward undertake this crop will be better economists, and that from the first they will endeavour to make the very best Indigo: *from the early cuttings at least*. Judging from the excellent instructions laid before our readers in the preceding article, there can be no advantage in converting the *best weed* into *inferior Indigo*, for the directions require all the dye to be extracted.

Too many of the Carolina planters, who raised this crop after the revolution, adopted the plan of the Orangeburg Indigo planters, and made theirs of inferior quality. The consequence of this was, that while the Spanish and East India Indigo was selling from six shillings to nine shillings sterling per pound in London, Carolina Indigo was seldom worth more than three or four shillings, and some even not worth more than two shillings and four pence. In addition to this, the loss of the weight to the merchant was so enormous, that prudent men would scarcely venture to purchase and ship Indigo. The East-India Indigo having also just been introduced, of very superior quality, our planters, instead of trying to improve, abandoned the culture.

At this hour the prices in New-York are as follows :—

For Bengal Indigo, per pound, 75 cents to \$2 25					
Manilla	do.	do.	87½ “	to	1 37½
Caraccas	do.	do.	1 25 “	to	1 75
Guatemala	do.	do.	1 00	to	1 62½

The prices received by the Orangeburg planters in Charleston, are thus about the prices of the lowest Bengal quality.

Our planters generally speaking, are not aware that in a regular state of commerce, every common charge and expense, foreign as well as inland, upon agricultural produce, from its leaving the hands of the grower until it reaches the consumer, come out of the pockets of the planter. This being the case, the more valuable produce is made in proportion to its bulk and weight, the more profitable it is to the planter, provided the sacrifice of quantity is not too great, because the deductions from the price are less in proportion to the value.*

The writer saw some of the last Indigo made in Carolina of the olden time, for sale in London in the year 1795. It was wretchedly put up in casks, the cakes broken in pieces, the quality of the worst kind, and the difference between the Carolina and the London weight ruinous, not having been well dried when sent to market. No prudent merchant will touch such commodities. Can we expect then it will prove lucrative to the planters as a general crop? During the scarcity of Indigo for some years past, any quality would have sold, but we trust when a full crop is made, that its superior quality will insure good prices, and prevent the fatal competition of other nations, as far as possible.

J. G.

* This can be well illustrated in the case of the Bengal Indigo planters, whose crops sell in New-York, at prices from 75 cents to \$2 25 cents per pound. If we suppose the expense of bringing Indigo from Calcutta to New-York, to be 20 cents per pound, on each pound sold at 75 cents, this is a charge of 26 per cent—a heavy deduction from a crop, in addition to country freight, factorage, wharfage, cooperage, &c. But from Indigo worth \$2 25 per pound, 20 cents deducted, is only a loss to the planter of 8 per cent on his crop! We give this explanation as applicable to all kinds of crops, and because this view of the subject is seldom taken by planters.

ART. IV.—*On the Cultivation of the Silk Worm; by*
AGRICOLA.

“ Georgia, December 27, 1828.

Dear Sir,—In conformity with my promise, under date of the 11th April last, I give you an account of one of my experiments.

Last spring, Mr. Skinner, of Balimore, forwarded to me by mail, some Silk Worm eggs; the weather being unseasonably warm during their passage here, some of them had hatched on the way, the residue of the eggs I placed in a favourable situation, and they readily hatched, but a severe frost occurring soon after, killed the Mulberry leaves except a very few in sheltered places, which were not sufficient to sustain all of my worms. The health and vigor of the survivors appeared to be impaired for ten or twelve days by the cold, and probably for want of a sufficient quantity of food. After the Mulberry trees put out a second foliage, I gave them plenty and they all ate greedily. Some diseased ones, however, appeared, and some deaths occurred at different stages of their growth; the survivors spun full-sized cocoons, some of a bright orange, and some of a light yellow colour. Being desirous of obtaining all their eggs, they were allowed to cut their cocoons, and they came out of them in the form of butterflies: whilst in this stage, which lasted seven or eight days, attention was necessary to keep them confined on the tables, where sheets of paper had been placed for them to deposit their eggs on. Some of them deposited as many as three hundred: from the stock I got a full compliment, which I placed in a drawer of a table in my dwelling, presuming it was a suitable place to preserve them till the next Spring, but on opening the drawer only a few days after, I was surprised to see several of the infant worms wandering about the drawer. I had food given them, and the eggs removed to a more favourable situation for hatching; but from some cause, I cannot positively account for, not more than one-tenth of them hatched; I am of opinion, however, that it was owing to injury done them by the common black flies, which, in great swarms seemed to feed upon them. At this time the Mulberry trees were in full foliage, and the most tender leaves were given the worms till they had attained

some size, after which the leaves were gathered indiscriminately, and so given to them. Scarcely any symptom of disease was perceptible in this generation, and but one death occurred till after they had spun. I was not with them during the time of spinning, but the black man who attended to them, informed me they were much inclined to wander in search of situations of their own choice for spinning, and many of them refused to spin on balls, but deposited their silk in the manner of spiders' webs, on the faggots that had been placed on the tables for them to attach their cocoons to. Those that spun on balls, came out of them in the form of butterflies, and gave a full compliment of eggs. The other worms I threw out, not knowing if they would give eggs, that they would be of any value. I have been able to preserve these eggs by placing them in a close box in a cool cellar, occasionally taking the box out, opening it, and giving the eggs air in the shade.

This little experiment, together with what I have been able to glean from books on the subject, brings me to the irresistible conclusion, that the Silk Worm may be cultivated in the South, to great profit to the cultivators, and in a national point of view, the benefits would be incalculable; all those lands of Virginia, the two Carolinas and Georgia, which have been worn to sterility by rude cultivation, and abandoned by their owners from their incapability any longer to reward labour in the ordinary mode of cultivation, might, in my humble opinion, with little preparation, be planted and cultivated in Mulberry trees, for food for the Silk Worm, to support a dense population in affluence. The white Mulberry tree will flourish in any soil, it will do well even on the side of a clay-hill that has been stript of every particle of soil: this I know of my own knowledge, for one of the best trees on my plantation, (and I have more than two hundred of large size) grows on the side of a clay-hill that half a century ago (if I may judge from the appearance of it) was stript of its top soil by its improvident cultivator. The Mulberry seed sown broad cast on hill sides, would put out such a mass of roots, as would prevent the ground from ever washing after the first or second year, and the falling foliage would, in the course of time, form a new stratum of soil, that would give vigor to the trees, or render the ground fit for other culture. Thus an immense extent of lands that is now considered of no value, and that disfi-

gures thousands, I might say millions of farms by their barrenness, might be made as productive of profit as they were in their virgin state, and be beautified by the groves or forests of Mulberry trees, affording food for the Silk Worm, and fruit to feed herdes of swine and poultry four months in the year.* Was I to cultivate the Silk Worm, I would not allow the Mulberry trees to rise above eight or ten feet; nor would I prune them. The leaves from trees of this size, would be easily stript without breaking the branches; but not so with large trees, for the smallest boy that could climb a large tree could not reach half the leaves without breaking the branches, and all of them could not be stript without the assistance of a ladder, which would make the work slow and laborious.

Many of the Mulberry cuttings that I planted last spring, died in the drought of last summer, but all of the roots are living, though not so flourishing as they would have been, had they been supported by better seasons. I have been unable to sow the Mulberry seed I had contemplated doing, in consequence of the fruit in that part of the country being killed by the late severe frost of last spring. When I can procure seed (which I have no doubt I shall be able to do next summer from my own trees,) I will certainly, if I live, test them on the broad-cast plan on different soils.

It is, I believe, the general impression, that women and children are the only description of persons that can be advantageously employed in the cultivation of the Silk Worm; I am of a different opinion; thus, hands which are found most profitable in other employments, be they male or female, large or small, will doubtless be found the most profitable in the cultivation of the Silk Worm.

Circumstances apart from any doubts on my mind, that the cultivation of the Silk Worm might be made productive of profit, renders it quite probable that I shall never go farther in the business than mere experiments, and as I have still on hand 70 or 80,000 eggs more than I shall have use for, I offer them to you for distribution.

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AGRICOLA.

* The White Mulberry tree bears two crops of fruit in each year in this latitude.

ART. V.—*On the Cultivation of the Sugar Cane*; by
A. S. JONES.

“ Mill-Haven, Ga. 9th February, 1829.

To the EDITOR of the “ SOUTHERN AGRICULTURIST.”

Sir,—I have received yours of the 2d instant, and with pleasure give you an account of my experiment the last season, in cultivating the Sugar Cane. I planted only three acres. The piece of ground planted was Pine barren. It had the year previously been cow-penned, and planted in Slip Potatoes. Half of the ground was planted early in November, in drills six feet apart, manured with stable manure, at the rate of about two hundred bushels to the acre. The Cane was planted whole in the drill, laid singly. The balance of the ground was similarly prepared, and planted about the 1st of February. The seed Cane was procured from different persons. That planted in February, was injured very materially, having been injudiciously banked; many of the Canes having not more than one eye or sprout. There was also a difference in the quality of the land. That planted in November the clay is near. The ground was well prepared with the plough. In the early part of the season, the first planted was the most promising, but the latter part of the season, that planted in February was much the best. Whether to attribute it to its being planted in a more sandy soil, or to the Cane, having more distance in the drill from the defect in the seed, I am at a loss to determine. My Cane was all cut down by the frost in April, at which time some of it was three feet high; none of it, however, was killed. I had Corn up at the same time; fully half was destroyed to the root, and the whole much injured. My Cane was well tended until the middle of June. The 1st of August, the Cane had matured from one to five joints—30th of September, sixteen joints were counted on some. We had frost on the 16th, 17th, and 18th of October, at which time, on some of the best stalks, twenty-two joints were counted, and it was judged by many of my acquaintances, that the Cane would average throughout the whole patch, ten or twelve mature joints, and that the joints would average at least

six inches, excluding two or three of the lower joints. I have seen a good deal of Cane the last season in Savannah, but none with joints as long as mine. I planted the Rib-band Cane, and the joints that were coloured were considered as mature. The three acres produced about fifty-five thousand Canes. No experiment of making Sugar was made with the Cane. I was satisfied on that score, as Sugar of superior quality had been made on the Pine-barren lands in some of the adjacent counties. This season I have planted thirty acres, and expect to prepare myself with a mill and boilers, and should I succeed, will, with pleasure, give to the public, through your useful journal, the result. Respectfully your's,

AUGS. SEABORN JONES.

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Note, by the EDITOR.

Mill-Haven is seventy-six miles above Savannah, on Savannah River, consequently to the North of Charleston. If the Sugar Cane thrives there, *so far inland*, no risk can attend its culture on the sea-coast. But our readers are already satisfied on that point, and we therefore call their attention more particularly to Mr. Jones' observations on the effect of the frost last April on his Canes, at a time when his Corn was killed to the root. We wish Mr. Jones every success, but we trust, even if he does not succeed the first year, that he will persevere, and as the *failures* of planters are frequently more *instructive* than their successful efforts, we beg, in either case, that he will write us on the subject. J. G.

ART. VI.—*On the Cultivation of the Irish Potatoe; by ALEX. BRODNAX, of Virginia.*

"Brunswick Co. Virginia, Jan. 17, 1829.

Dear Sir,—I now proceed to redeem the promise I gave you at the Virginia Springs last summer, that I would forward to you a communication on the subject of raising

the Irish Potatoe. It has been delayed longer than I intended, but hope it may reach you in time for experiment in the approaching season. The method recommended enjoys several important advantages; it requires less labour in rearing the crop, while it is as abundant, if not more so, than the result from any other system which has been pursued in this part of the country. The certainty of obtaining a crop is also greater. The land for planting the Potatoes should be well prepared by spading, or any other operation in use with you, and manuring. That manure is best which is far advanced in a state of decomposition. The surface should then be rendered fine and level. The land is now prepared for the seed, which should be placed in rows, about fifteen inches wide, with an interval of eight or nine inches in the row, and as light a covering of earth as practicable thrown over them. One other operation, and the labour, both of preparation and cultivation, is complete. Cover the whole patch in straw, about one foot deep. Many other articles of a similar nature might, I presume, answer as well.* Whether a thicker covering would prove useful in your climate, your own experience will suggest. Under this system, as soon as the Potatoes attain sufficient size for use, they may be taken up by examining carefully with your hand under the straw; while all, which are not fit for use, are left uninjured to grow. When the proper season arrives for taking up the Potatoes for use in the fall and winter, raise the straw, and remove all except such as you wish to remain for seed, in which situation they are preserved sound until the period for germination again arrives.

If you think this worthy a place in your work, insert it, otherwise do not. Accept my wishes for the success of the work. Very respectfully, your's, &c.

ALEX. BRODNAX.

To J. D. LEGARE, Esq.

Note, by the EDITOR.

We have long been of opinion that the planters of South-Carolina could feed their negroes, and feed them well, from crops either planted in the fall of the year and reaped in

* Pine trash.—J. G.

the spring, or early in summer, hence requiring but little labour during their growth. These crops are of course principally amongst the small grain, such as Wheat, Rye, Barley, and perhaps Oats, for even Oats feed men, and able men too.

Amongst other articles of food on which great reliance is placed in other countries for the bulk of the population, and most deservedly, is the Irish Potatoo. The use of it has been introduced into Greece very recently, and has been the means of saving many from starvation. It has made its way into Italy, and no doubt will gradually extend itself wherever the population of a country is dense, and consequently straightened for the necessaries of life.

We hope our readers will take our idea on this subject into consideration, and such of them as can try the experiment of planting Potatoes on the Brodnax system, *even this year*, will do so, for straw, besides keeping them from the cold, will protect them from the sun. Rice planters can, especially, without difficulty, make a trial, which, if it succeeds, will at once give us a crop on the system we speak of, requiring only planting and gathering in. We think Mr. Brodnax has omitted *draining* in his observations, we therefore suggest beds with alleys between, to serve as drains.

J. G.

ART. VII.—*Extract from an Address, delivered before the United Agricultural Society of South-Carolina, in the Hall of the House of Representatives, on the 1st of December, 1828 ; by the Hon. WHITEMARSH B. SEABROOK, President of the same.*

(Continued from page 115.)

“ It would now, perhaps, be interesting, if not instructive, to inquire, whether serious drawbacks to the progress of husbandry in South-Carolina, entirely to be ascribed to the improvidence of her legislators, do not exist. That there are many, is susceptible of an easy solution. The

limits of an address, however, will not allow me at this time, to notice but one, viz. the high legal rate of interest, and the non-existence of a tax on monies lent. A loan of interest was against the common law, and at several periods was prohibited by the ecclesiastical and civil codes. During the middle ages, this traffic was deemed dishonourable, and repugnant to the common maxims of morality and fraternal love. In those days, manufacturing, commercial and agricultural industry, depended for success, that of the two first on "the scanty capital of the dealers and mechanics themselves," and the last "was supported by the advances of the lords and great proprietors, who employed their serfs or retainers on their own account." From the progress of society, and the prevalence of more correct opinions of the functions and utility of capital, it has long been considered no more improper and immoral to exact interest for money lent, than to demand rent for houses or land, as interest is but a rent for an object of value. Governments usually regulate the premium for the loan of capital by law. The legal rate of interest in this State is seven per cent. I incline to the opinion, that lawful compensation for the loan of money in any country, should never exceed the average profit of the main employment of its citizens. In South-Carolina, it may safely be asserted, that few planters for many years have realized more than five per cent; and so long as their property shall be held by the slender tenure which political reformers have intrusively prescribed for them, so long will the belief of mere lucrative returns be predicted on false and deceptive grounds. As experience and common sense assure us, that capital will always be diverted to the most profitable channels, it is assuredly a fundamental error of policy, to allow it from the want of legislative interference to seek new objects, not only of no essential value to the State, but in many respects the instrument of inflicting a positive ill on society. For several years, from the unexampled depreciation and insecurity of property, to be traced proximately to political causes, many of the most devoted practitioners of the rural art, have either circumscribed the sphere of their operations, or have abandoned, perhaps, forever, their profession. However political economists may differ, in general, with regard to the most productive sources of national wealth and power, it will scarcely be disputed, that South-Carolina has been

mainly indebted for her prosperity to the produce of her soil. From a premise so indisputable, results this corollary, that the subduction of a solitary citizen from the toils of the field, more especially when the mixt character of our population is considered, is a public misfortune. The profits of agricultural capital being less than what legal enactments, and legal omissions permit them to be, the fund of the planter is, either in part or in whole, converted into stock or bonds, to which investment it is invited by the incentives of freedom from taxation, and the certainty of a higher premium for its use. As his annual return for his labour and skill, as I have previously stated, is below the maximum established by law for the loan of money, and as his gross income is subjected to a tax of about one and a half per cent., his self-love is thus forced into collision with his patriotism, and from an independent yeoman, he is literally transformed by a statutory provision, into a covetous bondholder, or stock-jobber. The causes already adverted to, have also been instrumental in preventing the accumulation of agricultural stock, by operating as an interdict to the borrower, whose aim is the employment of capital in the maintenance of productive labourers. The discreet and industrious planter refuses to give for the use of money more than a part of what he is likely to make by its employment. Capital is thus indirectly kept from the producer, and, in a measure, lent solely to the prodigal or projector, or to the unfortunate victim of the law of necessity. Having already referred to the indications of the decrease of our prosperity, as exemplified in the absence of those circumstances, which constitute an exponent of national wealth, it is incumbent on me to remark, that the amount of property, particularly slave property, sold within twelve months, has been so great as to excite the liveliest apprehensions of every friend to our domestic institutions. In reference to revenue, South-Carolina is not merely a sufferer from the deprivation of the services of her coloured labourers, who are now adding to the wealth of Louisiana and Florida, but from the inactivity of a considerable portion of that part of her landed capital, which those labourers were the instruments of using. Nor does the evil end here. In proportion to the withdrawal of capital and the necessary reduction of income, will be the diminution of the political influence of the state, in the national councils; and hence of the decrease

of our moral power, and ultimately, perhaps, of our numerical strength, in successfully maintaining the principles of our local policy.

“Pending the adjustment of this vitally important controversy, many schemes have been devised to render the tariff laws inoperative; or rather to diminish the gain which the advocates of the restrictive policy in prospect have allotted to the manufacturers. In relation to the establishment of domestic manufactures in this State, I would remark, that the geographical situation of South-Carolina; the great value of her staple productions; the adaptation of her climate to the most useful and necessary commodities; the fertility of her soil; the millions of acres of land yet in a state of nature; and the sparseness of her population, are but so many strong inducements to rely on the earth as the only fund which is always at home, and always capable of promptly administering to the public want. The very fact that South-Carolina is supposed to be the greatest exporter of native products in the union, is conclusive against any deviation from that established line of policy which nature has engraved on her escutcheon. From this consideration alone, it is abundantly obvious that the line of duty which imperious circumstances demand of us to pursue, is further to develop the capacities of the soil by diversifying the objects of cultivation. As this State may be said to be within the favoured belt of the habitable globe, which unites the advantages of the whole, it would be difficult to name an article of necessity which could not profitably be raised within its territory. In Hemp, Flax, Cotton, Wool, and Silk, is centered every raw material which is essential to the fabrics for the clothing of man. With Wheat, (*Triticum*) and the Sweet Potatoe, (*Convolvulus Batatus*,) Indian Corn (*Zea*,) and Rice, (*Oriza sativa*,) and the possession of as fine a grazing country as North America can boast, if the planter be but true to himself, the shafts of legislative indiscretion may be pointed in vain at his independence. The soil and climate of the State are also peculiarly favourable to the yielding of the Bene Oil Nut, (*Sesamum Indicum*,) the Poppy, (*Papaver Somniferum*,) the Prickly Pear, the food of the Cochineal, the Hop, (*Humulus Lupulus*) Madder, the Castor Oil Bean, (*Palma Christi*,) Indigo, (*Indigofera Pinctoria*,) Tobacco, (*Nicotiana*,) the Olive, (*Olea*,) Sugar, (*Saccharum*,) and every variety of the Grape, (*Vitis*,

Vinefera,) with many other valuable productions. In relation to the Vine, our geological position invites its extensive cultivation. With a capital in land of five millions of acres, unproductive in regard to every known commodity, save the Grape, South-Carolina may yet be requited for the improvidence of her yeomen in the overproduction of Cotton. The culture of the Vine in the middle country is worthy of the most attentive consideration of the Legislature. In that region, proverbial for the salubrity of its atmosphere, the foreign *Vigneron* may reside in perfect security. There too are to be found the most eligible sites for the location of farms, embracing that great desideratum in a southern climate, health, and the means of wealth. If it be an object of political importance to increase the population of the State, to prevent the periodical emigration of our citizens, and to induce them to expend their incomes at home, I know not any plan so likely to be effectual in the attainment of those ends, as the establishment of vineyards. To the furtherance of this laudable and politic scheme, our agricultural societies should unitedly contribute their moral influence as well as pecuniary mite. And I need not say, that if the good work be encouraged by authority, we shall be able, perhaps, to bequeath to posterity a legacy worthy of the patriotic and paternal character of the State. Under an intelligent direction, the unprolific sand-hills of South-Carolina, like the barren rocks of the Cevennes, the Pyrennes, and the Pays de Vaud of Europe, once a scene of unvaried sterility, may be covered with verdure, and enriched by cultivation. Whether so auspicious an event shall ever adorn our annals, will mainly depend on the State Councils."

PART II.

SELECTIONS.

ART. I.—*Italy, its Agriculture, &c. from the French of Mons. CHATEAUVIEUX, being Letters written by him in Italy, in the years 1812 and 1813; translated by EDWARD RIGBY.*

OBSERVATIONS BY THE EDITOR.

If any agricultural information is to be derived from visiting foreign parts, or from the works of those who have travelled to advantage, we shall probably procure the most valuable hints from the experience of the inhabitants of those countries, whose climate, soil and aspect resemble our own. We have turned to the volume before us, as likely not only to afford some idea of the agriculture and resources of another portion of the globe, but information and amusement to our readers, for this department of our work, devoted to selections alone.

To the southern planter then, a country which produces Cotton and Rice, in which they have tried the Indigo and Sugar Cane, which has a vast extent of flat, low lands subject to periodical inundations, or which can be watered artificially from the rivers; yet abounding with a cultivated hilly country, must be interesting.

We do not think that M. Chateauvieux always looks with the eyes of a very profound statesman, judging by some of his sentimental speculations—sometimes not even with those of a good agriculturist; but he is zealous, and does his best, and it must be the business of our readers to exercise their judgments in profiting by his information, which is ample, although occasionally conveyed in rather a loose manner.

Rice Planting in Italy.

Of Rice planting as practised on the Tessino, a river issuing out of Lake Maggiore and passing through the Milanese, we have the following account. Mr. Chateauvieux never saw rice grow, and therefore gives but little useful information; he concludes with an observation consolatory to those who apprehend the interference of the Italian rice planters, with our rice trade. The breed of sheep spoken of by him would be a real acquisition to the low country of Carolina.

“Towards the west of Lodesan, and on the banks of the Tessin, we quit this beautiful country of meadow and shade. Naked plains open to the view. Few habitations, and little activity, are seen here. The verdure is, throughout, alike pale and discoloured. These fields are appropriated to the rich culture of rice.

In the slight fall, which draws the water of the lake to the Po, are some low grounds, where the water does not run off. An ingenious person, they say he was a Dutchman, proposed to employ the stagnate water of these low grounds in the cultivation of rice. The experiment succeeded, which is not often the case.

The spot appropriated to this culture is divided into a great number of canals, lined with banks of turf. The water, here, is perfectly stagnate, under which grow water lilies, displaying, at the surface, the useless decoration of their flowers. These canals, formed with great regularity, inclose squares of two or three acres, secured on all sides by dikes. The sluices admit the water into them, and when once admitted, *it has no outlet.*

The rice grows at the bottom, some inches below the surface of the water. The plant resembles barley in the spring; like it, it has a knotty stem, a small ear, and a *long beard*. Not so high as wheat, its straw is of a more dry texture, and of a paler tint. It never bends, or turns on one side; and the wind, in shaking it, produces a rattling and continued sound, like that which is heard among reeds in stormy weather.

The culture of rice is extremely simple. The water is *let off the land* after harvest; the rice is then sown after a

single ploughing, and without any other preparation. The sluices are not opened to inundate the land, until the rice is a few inches high. It grows like an aquatic plant, always in the water. In this way it completes its growth, and the sluices are not opened to let the water off until near the period of its maturity, to allow the land some time to dry, that the harvest men may go into the squares and reap the crop. They tie them into small sheaves, which lie heaped together some time before they are threshed. The ground remains dry until it is again ploughed for another sowing of rice.

This plant is cultivated three years successively, on the same land; no manure is carried on during this time. The water would destroy its quality, and it is alone sufficient for the purposes of vegetation. But after these three following crops, the soil is exhausted, and requires light, air, and rest. It is left uncultivated, and the humidity of the soil produces the spontaneous growth of the plants adapted to its situation. It is manured, and then only, on the new, turf, and for two years a most abundant crop of hay is obtained, though but of an inferior quality.

The rice course is thus, five years; three of which are in rice and two in natural grass. During these five years the land is manured but once, at the time when it is not under water.

Could you suppose there is a breed of sheep adapted by nature, or rather naturalized to these wet places, feeding only on the water plants which grow in the rice stubbles, and the grass which covers the banks. This breed of sheep is strong, healthy, and fruitful; the ewes always producing two, and sometimes three lambs at a birth. No other animal could feed on these boggy lands without sinking in them; and Providence seems to have allowed this peculiarity, to shew that there is not a place on the earth, which may remain desert, nor a plant which may not become food to some beings in the creation.

The produce of a crop of rice is estimated at double that of an equal crop of wheat. This rich revenue is repeated three successive years on the same land, and the interval which is necessary to give the land rest, produces forage. The rent of rice grounds is higher, because they require little labour, not often repeated, nor expensive. The profit, therefore, has been such that the owners have not been

willing to divide it with a metayer. The rice grounds are let at fixed rents, about a hundred and sixty francs an acre, and even at this enormous rent, the farmers have often made large fortunes.

But the possession of such wealth would be too valuable, if some inconvenience did not attach to it. A serious calamity was soon found to spread itself over the rice grounds. Sickly labourers are seen passing along the banks, to superintend the distribution of the water. They are dressed like miners, in coarse cloth, and they wander about as pale as ghosts, in the reeds and near the sluices, which they have scarcely strength enough to open and shut. In crossing a canal, they are often obliged to plunge into the water, like amphibious animals, and they come out wet and covered with mud, carrying with them the germs of fever, which never fails to attack them. They are not the only victims, as the harvest men seldom get in the crop without being seized with rigors; the air in all the neighbouring places being deteriorated by the stagnant water. The avidity of the rice planters is, therefore, restrained by law, as they are prohibited extending this culture beyond certain limits. The evil had taken place in the district, and the population was dispersed, before all the danger arising from this culture was ascertained."

ART. II.—*On the use of Sea-Water as a Manure.*

[FROM DEAN'S NEW-ENGLAND FARMER.]

"This fluid, besides water and particles of common salt, contains, according to Dr. Russel's account, sulphur, nitre and oil.

As it undoubtedly contains much of the essence of animal and vegetable substances, by means of the perishing and consuming of both in it, it is fitter than mere salt to be used as a manure, whether by itself, or in compost.

In the year 1786, one hundred hills of potatoes near the shore were watered with sea water, about two quarts on a hill, being one hour's work of a man. The crop was half

as much again, as in the same number of hills adjoining. The water was applied to the soil just after planting the sets, which I suppose to be the best time for doing it, as there can be no danger of burning the young shoots, and as the salt will be mixed with rain and the moisture of the earth, before shoots are produced.

In the year 1787, alternate rows were watered in the same manner with sea water. The result of this experiment was uncertain; because by ploughing off and on alternately between the rows, the earth of the watered and unwatered rows was blended together. But altogether, a good crop was obtained.

The same year a piece of the flax was, in the month of June, very short and yellow on one side of the piece; but of a good colour on the other, and much taller: This induced the owner to water the poor side from the sea. In ten days it was equal in length and colour with that on the other side, though very little rain fell in the time. At pulling, the watered side was evidently better grown than the other. This was a sufficient demonstration of the advantage of sea water, when the land lies adjoining to the sea shore; so that the labour of applying it is inconsiderable.

The above experiments were made in a clayey soil.

In a sandy soil, the same year, watering the ground where French turnips were just sown, had an excellent effect. Though it was a spot where the turnips had been destroyed by insects, several years successively, they generally escaped this year. Not more than one pailfull was applied to a drill row two rods in length, wetting the ground over the seeds, soon after sowing.

Salt water applied to tender plants, most commonly proves too strong for them, if applied when the ground is dry. But if it be wet, the strength of the water is abated by mixing with the juices in the soil, before it is taken up by the roots, and thus it is rendered innocent and safe, as I have found by experience. The seeds bear the application of the sea-water, better than the young plants do.

An expeditious method of carrying out the water is thus described in the Farmer's Assistant.

“Sea water might be carried from the sea some distance on the land, to advantage, in the following manner: Take

a one horse cart, and suspend a tight box, rightly shaped, under the axletree; the box having a valve in the under-side; drive the cart into the water, and the valve opens, and lets that fluid into the box; and, when the cart is driven out, the valve closes and holds the water.

“When the cart is driven out to the ground on which the water is to be spread, this operation may be performed in the mannner we shall next describe: A tube is to be provided, say, twelve feet in length, with small holes bored into it at the distance of six inches apart, and the ends of the tube closed; attach this to the under side of the box, crossways, at either end, so as to be out of the way of the wheels of the cart.

“When you come to where the water is to be spread, it is to be let out of the box into the tube, by an aperture for the purpose; and as the cart moves along, the water runs out of each of the small holes in the tube, and thus sprinkles over a piece of ground of twelve feet wide, till the whole is exhausted.

“With the next load; begin where the water ceased running before, and thus continue the watered strip across the field. Then take another strip of twelve feet wide, adjoining that already watered, and thus proceed till the whole has been gone over.

“In this way a man would carry out, say, forty cart loads a day, at the distance of half a mile, or half that number if a mile; as but little time need be spent, either in loading or unloading. About ten loads of a hundred gallons each would probably be sufficient for an acre at any one time.”

ART. III.—*On the Properties and Application of Manures.*

[FROM LORAIN'S HUSBANDRY.]

(Continued from page 137.)

I have heard of cattle yards calculated to save the manure; but although I am now advanced on the wrong side of sixty, I can truly say that I do not recollect to have ever seen but

one cattle yard that did not admit the washing rains and melting snows to pass through them, so as to sweep away the riches of the manure, unless perchance they happened to be placed on some spot which naturally turned off the water coming from the adjacent grounds. From this a great loss must occur; especially as I have often seen, that the farmer, to keep himself and his cattle from being mired in the cattle yard, had cut drains to let off the offending matter; although his cornstalks, and very often his corn fodder too, were suffered to stand and dry-rot in his fields, and much straw was also seen lying about his barn.

Nothing can be more simple or cheap than the proper construction of a cattle yard. Some are made concave, with great labour and expense. These save the manure, but must be too wet to be healthy or comfortable. A flat is not desirable; but when unavoidable, may be kept dry with some labour and contrivance. A declivity is best, with a small drain dug round the outside of the fence, and the earth from it formed into a bank under the bottom rail, high enough to exclude the water from without. A wide hole, formed somewhat like a ditch, should be made on the outside of the fence, at the lowest end or side of the yard, to receive the drainings from the manure, taking care to prevent the water from the outside of the yard from running into it. In this, spread a layer of earth that has been broken to pieces tolerably fine by digging, pitching, &c. to imbibe the washings carried off from the yard by the rains and melting snows which fall into it. When this becomes fully saturated, add another layer; proceeding in this way until you wish to remove the manure. The earth dugged from the ditch may be used for this purpose, while it lasts; after it has been expended, any earth, except sand or a compact clay, (if free from stones,) that may happen either to lie in your way, or can be got with the least expense, may be used for the same purpose. For, as it has been observed before, it is not the earth, but the animal and vegetable matter contained in it, that enriches the soil. Therefore, if you have any mould that will pay for hauling, digging and spreading, it will be far better to haul it immediately to your fields, than to haul it twice; particularly as a poor or inert earth is capable of imbibing much more of the animal and vegetable matter from the washings, than one that is already well stored with the same materials.

If liquid manure be preferred, dig a hole in the form of a well, to receive the drainings from the yard. This should be kept covered, to prevent evaporation and accidents. I believe that time, with the materials running into it, will puddle the bottom and sides, so as to make it nearly if not quite water tight. This happened in a sink digged through a loose clay into a stratum of sand, to run off the water from my pump and kitchen. If the matters filling up the pores of the sand were not occasionally scraped off, the water would rise up and run over the top of it. We also see that hollows, even in sandy grounds, are puddled and made water tight by the materials washed into them. The pump, spouts, casks, &c. necessary to the removal of liquid manure, with the difficulty of spreading it regularly, seemed to introduce expense, complication and perplexity; therefore the ditch and earth were used by me. Some loss unavoidably arises from evaporation, but not so great as at first sight appears. The juices from the manure are generally heavier than the rain water that conveys them into the ditch: this causes much of them to sink under it; and when the water has evaporated, they should be covered with a light layer of earth.

Paving and various methods have been proposed to make the bottom of cattle yards impervious to the juices of the manure. No contrivance, however, except a costly cement under the pavement, appears likely to be effectual, and even this is doubtful; but if it were not, the expense does not seem to accord with the proper economy of farming.—Therefore the native earth may be justly considered the most profitable bottom that is yet known to us. When the dung is removed, the yard may be scraped so far down as a sufficiency of the juice have penetrated, to make the earth a valuable manure. After this, if the natural form of the ground require alteration, the hollows may be filled up by the heights every spring, so far as leisure may permit, until the bottom of the yard is reduced to the best form the situation will admit.

After the annual scrapings have made the bottom of the yard too low, it should be well filled up with any kind of earth free from stones, (sand and a compact clay excepted) that will cost the least labour. This ought to be done soon after the dung is removed in the spring, that the bottom may become hard before the winter feeding commences.

Sand is too loose to imbibe the juices from the dung, for they pass too freely through it; and compact clay is too impervious to be readily enriched by them.

Some suppose that great advantages are derived by well covering the cattle yard annually with mould, marl, &c. Such a covering does not, in the course of one year, imbibe enough of the juices to pay for the double digging, hauling, and spreading of it. It also keeps the yard too wet, and is incapable of absorbing nearly all the juices that are swept off by heavy rains and melting snows. At all other times, the open texture of the straw, cornstalks, and other vegetable substances used for litter, calculates them, in proportion to their weight, to imbibe much more of the juices than the earth, and certainly they are in themselves much more enriching.

If the earth be considered useful, either as a mechanical or enriching manure, much useless and injurious labour would be saved by hauling and spreading it at once on the fields.

The richer dung from the stables and sheds should be wheeled and spread over the longer and poorer manure in the yard. This, with frequently littering the yard, together with the treading of the cattle, will mix the whole together, without the extra expense of turning, mixing, and heaping it; provided the cultivator sees that the business is properly conducted. But little loss will arise from fermentation, when compared with that which will take place, even through the winter, when the rich manure is piled up in heaps. The extensive body and richness of it greatly favours fermentation.

As it is far better, under any system of management, for the cattle to run at large in the yard through the day, unless the weather be bad, movable hay-savers for holding the hay, corn fodder, &c. should be constructed, that the rich droppings from the cattle may be regularly spread over the yard; unless they be fed under open sheds, and are never confined. The formation of these savers are simple, and will be explained, and also the cheapest and best method of sheltering cattle through the winter.

The farm yard manure that is left or gathered after the early fallow crops have been planted, may be preserved from any very material waste, by heaping it on a layer of earth sufficiently thick to absorb the drainings from it, and

covering the heap with as much mould as will imbibe the principal part of the gaseous effluvia arising from the manure. A thick covering of pure compact clay will prevent any loss from evaporation; but such a covering will imbibe so little of the matter from the dung, that it would be of little or no use for manure.

If the dung must be kept throughout the summer, a thick coat of thatch over the covering of mould will greatly retard fermentation; for straw is a good non-conductor of heat. It would also prevent the escape of the volatile matter from the manure, and the covering of mould would be much better saturated with it. If the straw be used for litter, nothing will be lost that can be readily saved. Any loose straw, if put on sufficiently thick, will do equally as well as a regular thatch; nay, much better, for it will cost much less labour. He is the best farmer who grows the best crops, and most extensively improves his soil, with the least possible labour and expense.

Since it has become fashionable for gentlemen possessing immense estates to farm, the farming world seems to have been so intent on what has been considered improvement, that they appear to have forgotten (especially in England) that one of the most valuable improvements which can be made in agriculture, is to simplify it, so that every thing may be done with the least possible labour or expense that is consistent with a good cultivation and the improvement of the soil.

The Farmer's Journal, published in London, clearly and very pathetically delineates the very distressing situation in which the agriculturists of that country are involved; but one of the principal causes of this distress seems to have been overlooked. The increase of the taxes is loudly complained of, and not without cause; but it would appear that the tithe is now considered an insupportable burden. It is true, that this tax has been always deservedly unpopular; still it has not, until of late, been considered an intolerable burden; on the contrary, it has been, for a very great while, paid without any very apparent injury to agriculture. However, in the whole of the complaints which have been made, in almost every shape and form, against taxation, it seems to have been entirely forgotten that agriculture may tax itself as highly as any government

possessing common prudence dare venture, especially in a country where the people may not only complain, but must and will be eventually heard. But as this very interesting subject is more particularly connected with gentlemen farming and cultivation, I refer the reader to my books on these subjects, for an explanation of the expensive practices, as well as the very injurious alterations which have been too generally made in the size of the farms, and also in the farmers, as is clearly seen by the practice of too many of those by whom the soil is now extensively cultivated.

Here, however, I would ask, whether it be possible that the agriculture of any country can permanently flourish, where a middle grade of gentry have been created, to stand between the owners and the cultivators of the soil, who must be nearly as extravagantly fed and clothed, and their children as politely educated, as the proprietors of the land, although neither of them labour on it? Certainly not: for the cultivators of the soil in every country ought to be a hardy, active, laborious, intelligent, and economical race of men; and the owners of it ought to set the example of the best modes of cultivation and management, accomplished with the least possible labour and expense.

(To be continued.)

PART III.

MISCELLANEOUS AGRICULTURAL ITEMS.

Agricultural Society of South-Carolina.

The following *Premiums* are offered by the *Agricultural Society of South-Carolina*, to be awarded at their meeting in February 1830, viz:—

1st. To the manager of one or more Plantations who can produce the most satisfactory testimonials by those by whom he has been employed, of his diligence, skill, good management and humanity for three preceding years, \$40 or a piece of Plate.

2d. To the Overseer of one plantation who can produce similar testimonials, \$30 or a piece of Plate.

3d. For the best conducted experiment to be made in 1829, on not less than one acre of land wherein by any mode of culture, not generally practiced in the State, or by the introduction of any new kind of Manure, or by the application of the usual Manure in an unusual manner or quantity, the produce of black Seed Cotton shall be materially improved. \$40, or a piece of Plate.

4th. For a similar experiment on Short Staple Cotton, \$40 or a piece of Plate.

5th. For do. on Rice, on not less than five acres, \$40 or a piece of Plate.

6th. For do. on Flint Corn on not less than one acre, \$30 or a piece of Plate.

7th. For do. on Gourd Seed Corn, on not less than one acre, \$30 or a piece of Plate.

8th. For do. on Sweet Potatoes, on not less than one acre, \$30 or a piece of Plate.

9th. For do. on Barley, on not less than one acre, \$30 or a piece of Plate.

10th. For the best acre of Hay—a quantity not less than one hundred weight to be produced at the meeting of the Society, together with a certificate from two or more respectable neighbours, stating that the whole parcel is equal to the specimen exhibited; also as to the quantity raised, and statements must be given of the whole process, \$40 or a piece of Plate.

11th. For a Lady's Hat, or Bonnet, made of the Straw of Grain, or Grass, or any other vegetable substance, the produce of the State, which, in all its essential qualities, shall best compete with Italian Hats imported from Leghorn, \$40 or a piece of Plate.

12th. For a specimen of Straw or Grass, the growth of South-Carolina, properly bleached, and suitable for making the kind of Bonnet usually denominated Leghorn Bonnets, \$30 or a piece of Plate. Both specimens to be produced accompanied by certificates of the growth of the material, to the Society on the first day of their meeting in February ensuing.

13th. For the best conducted experiment on the cultivation of the Sugar Cane, on not less than one acre of land, \$40, or a piece of Plate.

14th. For the best sample of Sugar, made from Cane, the growth of the State, not less than ten pounds to be exhibited, and the process of the manufactory to be detailed, \$40, or a piece of Plate.

15th. For the best conducted experiment on the Silk Worm, and raising Silk—a sample of the Silk to be exhibited, not less than a quarter of a pound in fillits, \$40, or a piece of Plate.

16th. For the best conducted experiment on Indigo raised on one acre of land—the Indigo to be cured and packed as for

exportation, and a detailed account furnished of the preparation of the soil, the mode of culture and curing. A fair sample of the cured Indigo to be produced to the Society, \$40 or a piece of Plate.

17th. For the greatest quantity of Madder raised upon one acre of land, \$40 or a piece of Plate

The above Premiums to be awarded in February, 1830, at their room. The Premiums to be given in money or a piece of Plate, with suitable inscriptions engraved on them, at the option of those to whom they may be awarded.

All certificates must be directed to the Secretary. In order to obtain the prize in either of the above articles of cultivation or preparation, the candidate must forward to the Secretary of this Society a particular detail of the situation and quality of the soil, the preparatory culture, the quality and preparation (if any,) of the seed, the kinds, and quantity of manure, with the times and mode of its application, the culture while the crop is growing, the mode of collecting or harvesting, and the product, stating also the product of the same quantity on land of similar natural quality cultivated in the common manner in the same season. The facts and circumstances to be certified by one or more respectable witnesses.

Resolved, That if Candidates to whom Premiums are awarded, do not call for them within six months, they shall be considered as forfeited and relinquished to the Society.

By order of the Society.

WILLIAM READ, *Chairman*
Committee on Arrangements and Premiums.

Advantage of attention to the choice of Seed illustrated in the Irish Potatoe.—The Rev. E. Cartwright, (a distinguished cultivator,) publishes in the fifth volume of communications to the British Board of Agriculture, that potatoes grown in double rows, nine inches asunder, with intervals of eighteen inches, the sets cut with one eye in each, and planted nine inches apart in the rows, produce from sixteen to twenty tons to the acre; which may be estimated at about from six to seven hundred bushels to the acre. This is a very large product, but it should be recollected that there is a very great difference in the increase of the different varieties of this root. At least quite as much, (and as I believe more,) as the loss of half the crop, from not planting the most productive. This seems to be the principal reason why the potatoe produces, generally, much greater crops in England, than in this country. Much more attention has been given there to raise productive varieties from seed. I have sought for a productive variety of potatoes, but not from seed: consequently, I have not obtained it. Still, I have clearly seen a difference of at

least one half the product, in the different varieties noticed by me. Also, that some varieties will attain a profitable size, on soils so thin as not to be capable of producing other varieties, large enough for table use, although the latter, when as well manured as is commonly done by the thrifty farmer, obtain a large size. These are interesting distinctions in the economy of the potatoe, and require much more attention than has been given to them. With proper attention, it may perhaps be hereafter seen, that there are varieties of many other plants, which will thrive and produce good crops, on much less nutriment than other plants of the same species. Practice has determined, that some breeds of domesticated animals thrive and fatten more freely than others, and on less food. Also, that some breeds of horses and oxen will labour, and keep in good condition, on much less food than others. It is evident, that the analogy between plants and animals, is strikingly great. Also, that we derive too little agricultural information from this interesting fact.

Very large potatoes are not better for table use than those of a moderate size, and not so good when the increased size causes them to grow hollow in the heart. Large potatoes have large eyes, and these produce large vigorous stems and roots; consequently, the largest should be invariably selected for seed. Such as farmers commonly call seed potatoes should never be planted, but in cases of absolute necessity, and then only from the growth of large seed. They not only produce small debilitated stems and roots, but if selected for planting year after year, will soon degenerate the best variety. Still, farmers who really endeavour to improve their breed of horses and cattle, by employing the best studs and bulls, without considering the expense, (unless it be too extravagant,) yearly plant small potatoes, and some even go so far as to declare they are best. However, practice, reason, observation and the great affinity that there is between plants and animals, clearly determines they are wrong. If the largest and best formed potatoes, of any variety, be annually selected for seed, they may improve, but cannot degenerate; provided sufficient nutriment and good cultivation be also employed. Unless it should hereafter appear, that the duration of this plant is (as some say trees are,) limited when propagated by cuttings. If they should degenerate from this cause, it certainly does not happen for a long time.—*Lorain's Husbandry.*

Very luxuriant crops seldom determine good management.—As the glare of large crops frequently misleads, and induces too many cultivators to adopt bad practices, it may be proper to show that great product is so far from being always the result of an enlightened practice, that it has been often obtained when the management has been excessively bad.

Mr. Stevens' wager crop of one hundred and eighteen bushels of corn to the acre, published in the *Domestic Encyclopædia*, is the largest product that I have noticed. He introduced 26,880 plants to the acre, in double rows, with intervals of five feet six inches: this is fifty-six plants in the length of one perch along the rows. A large ear, shells one pint of corn; moderate sized ears will measure more than half a pint. If each plant in this gentleman's field had produced only half a pint of shelled corn, his crop would have yielded about two hundred bushels to the acre: consequently the number of the plants greatly injured the product of it. There can be but little doubt, that if Mr. Stevens had suffered only thirty-three plants to stand in the length of one perch on the rows, that his soil, heavy manuring, and attentive cultivation, would have grown a much larger crop of corn.

But although Mr. Stevens won the wager of fifty guineas depending on these crops, he lost more money than did his competitor, Mr. Ludlow, who lost the bet; provided these gentlemen lived at that distance from town which would fix the price of the manure used by them, at the average cost of that article. This will centre somewhere between the largest and shortest distances, to which it is annually carried from the cities or towns where it is made.

The land employed by each of them seems to have been three acres. It is said Mr. Stevens applied "seven hundred horse cart loads of street manure, and Mr. Ludlow two hundred horse cart loads of street dirt;" therefore it would seem that each of these loads was drawn by one horse.

If manure be carried to a considerable distance, it is done cheapest by water, but as it must be often handled and carted twice, when transported in this way, it costs quite as much as land carriage, if the distance be moderate. Therefore, it would seem that to cover the cost in town, also transportation, spreading it over the soil, sixty cents per load is a moderate estimate, without considering the tedious use of baskets, and sprinkling it over the rows:

Mr. Stevens employed five hundred loads more than Mr. Ludlow; this at sixty cents per load, amounts to		\$300 00
Deduct from the above fifty guineas won by Mr. Stevens, or	233 33	
As Mr. Stevens grew sixty bushels of corn more than was grown by Mr. Ludlow, this should also be deducted; at seventy cents per bushel, it amounts to	45 00	
	<hr/>	278 33
Balance lost by Mr. Stevens, although fame has represented him to be the winner,		<hr/> \$21 62

The cause of this is evident: Mr. Stevens planted vastly too thick in the rows, and Mr. Ludlow's arrangement was, saying the least that can be said of it, a good one, when compared with the former gentleman's plan. Mr. Ludlow "planted in continued rows, four feet asunder, and eight inches from stalk to stalk in the rows." And if he had employed only half as much manure as was applied by Mr. Stevens, it is probable he would have won the wager. Now if this had happened, as I believe it would, Mr. Stevens would have lost more than three hundred dollars. However, two things are very evident from the calculations made on these wager crops. First, that even an immense quantity of manure, is not capable of counteracting to any very considerable extent, the fatal error of too many plants. Secondly, that much money may be very readily lost in the random and injudicious cultivation of a few acres of ground, quite as much, or perhaps more, than the value of the land on which the crop is grown; and as the subject seems to be a very interesting one, especially to gentleman farmers, it will be resumed and further considered in my next chapter.—*Ib.*

Leaves of the Mulberry.—The mulberry tree is found in different climates, but the juice of leaves grown in the north is much less nutritive than that of the leaves of the south. In this respect mulberry leaves and silk are not less different than wines, according to the climate in which they are produced. In general, every climate and soil that will produce good wheat will produce large succulent mulberry leaves; but these leaves will be too nutritive; they will have too much sap, too much substance and succulency. The wild mulberry, with small leaves, answers better for such a soil, than the grafted mulberry with large leaves. A general rule, and one to be depended on, is, that the mulberry to produce the best silk requires the same soil and exposure that the vine does to produce the best wine. Experience has proved that silk worms nourished by leaves gathered from a dry soil, succeed much better, produce more cocoons, and are less subject to those diseases which destroy them, than those which have been nourished by leaves produced by an extremely rich soil. (*Un Pépiniériste de la Belgique*, in the *Journal d'Agric. des Pays-Bas*, Oct. 1827, p. 217.)

Singular Case.—The circumstances which caused the death of William M'Nair, Esq. at Seafeld, near Easky, were extremely singular: in administering a ball to a glandered horse, he took the infection through a slight scratch on his finger; in a short time he became infected in both his arms, from whence it communicated to the whole system, and at length terminated fatally.—*Farmer's Magazine.*

Salt as a Manure.—A correspondent has favoured us with his opinion as to the value of this substance as a manure, and also with a table of directions for its use. As this may be interesting to some of our readers, we subjoin the following summary:—A general rule is, never to sow it with the seed. For potatoes, onions, carrots, and parsneps, from 10 to 12 cwt. per acre; laid on not nearer than one month *before* seed time; and for garden ground in general, he advises 14 or 16 cwt. per acre to be laid on early in spring. Composts, 1 cwt. per load. Its principal use, as assisting vegetation, is, its property of absorbing moisture from the air, and retaining it in the soil; and also its use in destroying weeds and vermin.—*Gard. Magazine.*

Swedish Turnips have grown on the same soil, on the property of W. Whitehouse, Esq., of Studley, for seven successive years, with undiminished fertility and weight of crop. The soil consisted principally of decomposing vegetable peaty matter and chalk.—*Ib.*

QUERIES.

Mr. J. G. ANSON, of North-Carolina, wishes to be informed on the following points, viz:

- 1st. What is the most effectual means of protecting Sheep from Dogs?
2. Is the health of Sheep affected by being penned for some length of time in one place during summer, if so, how long they can be, without injury?
3. Is it advantageous to pen sheep during winter nights, or only during very cold, wet weather?
4. What is the natural average life of a flock—how long will they yield a full fleece and continue prolific—which will fail first. Ewes or Rams—how often should the old Rams be displaced by young ones, and how many Ewes should be allowed to each Ram?
5. Is it instinct or education which causes the shepherd's dog to attend and guard a flock—can he be procured in America, and at what price?
6. How many Sheep can a shepherd and his dog attend throughout the grazing season?
7. Have the Bakewell Sheep been introduced into the Carolinas, and with what success—have any other distinct breed, or judicious crosses been introduced?

ERRATA.—In the Extract from W. B. Seabrook's Address, line 1, page 111, for *isolated* read *isolated*. Line 5, page 114, for *have* read *has*.